PACKET PROCESSOR WITH PROGRAMMABLE APPLICATION LOGIC

ABSTRACT

     A data communication switch includes a backplane and
5 multiple packet switching controllers. At least one packet
switching controller includes programmable application logic for
generating application data for a packet. The application logic
is contained in key builder and lookup table of an application
engine. The key builder contains one or more schema programs
10 for generating keys and key controls using classification
information and header data of inbound packets. The schema
programs can be loaded onto the key builder during fabrication
of the packet switching controller or in field. The keys and
key controls are used to lookup the application data from the
15 lookup table.